

REMARKS:

Claims 97-125 are in the application and presented for reconsideration.

In case an appeal is filed by the Applicants, these claims will be on appeal.

The Examiner has rejected claims 97-105, 109-110 and 115-123 as been obvious under 35 U.S.C. 103 from a combination U.S. Patent 5,217,501 to Fuse et al. (Fuse) in view of U.S. Patent 5,906,680 to Meyerson (Meyerson).

Claim 97, the only independent claim presented, defines a method for manufacturing components or their intermediate products, which comprises the steps of:

(a) providing a batch of disk-shaped structural members that are in a horizontal position and within an ultrahigh vacuum (UHV) treatment reactor;

(b) subjecting these structural members to CVD (Chemical Vapor Ddeposition) treatment to form a batch of CVD treated members in the UHV reactor;

(c) removing this CVD treated members from yhe UHV reactor; and

(d) manufacturing the components or their intermediate products from the CVD treated members.

It is firstly noted that, unlike Fuse which teaches a non-UHV treatment apparatus and method, UHV treatments require clean-room level conditions and cannot tolerate any dust creating apparatus, such as the elevator 26 in Fig. 1 of Fuse which, due to friction among its moving parts, would produce contaminating particles that are unacceptable in an ultra-high-vacuum or UHV reactor.

Secondly, while Meyerson teaches an UHV treatment process which must suggest to the person of ordinary skill in this art the corresponding conditions of cleanliness and care in using only appropriate devices for handling the workpieces, these conditions and requirements are inconsistent with the non-UHV environment of Fuse. This incompatibility

of teaches would also be understood by the skilled artisan and would made the combination of these references unattractive and, in fact, quite unobvious under the test of 35 U.S.C. 103 there a combination of references should be suggested. In this case, not only is there no suggestion for their combination in the references cited or in the prior art as a whole, but the prior art would actually teach against their combination.

Fuse clearly teaches a non-UHV manufacturing method which does, as the Examiner recognizes, operate on a batch of horizontally positioned members. As is common for non-UHV methods, Fuse teaches transport for the batch which would not be applicable in UHV equipment. Note, that according Fig. 1 of Fuse, within the load-lock chamber 40 which is just downstream the treatment chamber, namely the process tube 10, there is provided the elevator 26 which is moved up and down along a guide. This is a transport technique which would not be acceptable for UHV processing due to significantly high frictional contamination in chamber 40 which would inevitable also contaminate process tube 10, once chamber 40 is open to the process tube 10 for introducing or removing boat 18. This type of handling by elevator or articulated transports is typical for non-UHV appliances as may also be seen e.g. from Hendriks "Interface Engineering in Silicon Semiconductor Processing using a Vacuum Cluster Tool" which has already been cited by Applicants.

On the other hand, UHV appliances as known from Meyerson and also from US Patent 6,013,134 to Chu et al. and from Thomsen's "Cold -walled UHV/CVD batch reactor for the growth of silicon-germanium layers" are each of quite different types of processing with vertical wafer batches.

Therefore, if the skilled artisan, departing from a non-UHV treatment process as disclosed in Fuse, for a certain type of substrate processing is faced with the object of performing such processing with a process which necessitates UHV, he would clearly not

stick on this type of transport and processing as known from non-UHV appliances as from Fuse and reconstruct the respective members to become suited for the UHV process but he would clearly switch to the equipment and processing as known for UHV appliances, that is, as known e.g. from Meyerson, Thomsen or Hendriks.

The Examiner's conclusion that it would have been obvious for the skilled artisan to maintain the technique as known from Fuse for non-UHV appliances and just apply UHV conditions as known from Meyerson, is a clear use of hindsight gleaned from the present application only. There is no reason the skilled artisan would be motivated to do so instead of just using known UHV equipment, and clearly every reason not to combine the teachings of Fuse and Meyerson.

These two types of processing equipment for batch processing are clearly distinct as established by the prior art taken as a whole, and the unobvious and patentable method of claim 97 should be considered in this light.

The invention resides in an inventive step to quit with this "two-distinct type" of handling and processing and to process by UHV processing a batch of substrates with an orientation which was, up to now, only applied for non UHV appliances, throughout the prior art. The prior art taken as a whole overwhelmingly teaches against the combination, not for it.

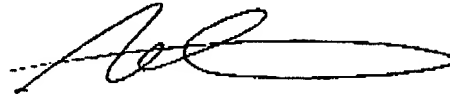
The dependent claims distinguish the invention even further from the prior as combined by the Examiner and reconsideration of claim 97 and all of its dependent claims is respectfully requested.

The undersigned plans on calling the Examiner for a telephone interview. If the Examiner reaches this action first, however, he is respectfully requested to telephone the undersigned to discuss this case.

The Applicants feel strongly that the combination of Fuse and Meyerson is not an

obvious combination and not one that would reach the invention in the manner called for by 35 U.S.C. 103 so that the claims and application are believed to be in condition for allowance and favorable action is respectfully requested.

Respectfully submitted,



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